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ABSTRACT

This booklet provides practical "how-to" information to federal employees on the implementation of Total Quality Management (TQM). The booklet is intended primarily for program officials who have begun to think seriously about or have already begun a TQM effort and want guidance on the training effort to support it. Background information on TQM is followed by a list of some key strategic decisions that should be addressed in the implementation plan. Evolving training needs of organizations at various stages of TQM implementation are discussed. Important issues that should be addressed in the training plan are summarized, including funding and assignment of employees to training. Issues are discussed that organizations should consider in phasing training throughout the organization: top management orientation, general organization awareness, and initial focus of indepth TQM training. Training subject areas and courses that many successful TQM organizations provide to meet education and training needs are summarized. A discussion follows of key principles and issues in managing, organizing, and arranging for the delivery of TQM training, including structuring training, selecting trainers, sources of external training, and organizing training staff. Evaluating the training effort is briefly addressed. Appendixes include information on Federal Quality Institute services and a 10-item bibliography. (YLB)

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Education and Training for *Total Quality Management* In the Federal Government

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"The improvement of quality in products and the improvement of quality in service – these are national priorities as never before."

President George Bush

"...quality .... begins with the understanding that only customers can define quality."
"... quality management is not just a strategy. It must be a new style of working, even a new style of thinking. A dedication to quality and excellence is more than good business. It is a way of life, giving something back to society, offering your best to others."

President George Bush

Photo by David Valdez

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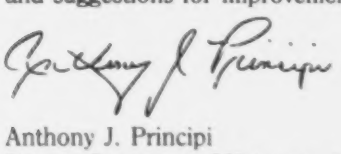
Foreword

As Chairman of the Federal Quality Institute (FQI) Board of Directors, I believe we in the Federal Government must improve the quality of services we are providing to American citizens. Quality improvement is a critical national need.

Private industry has shown what a difference commitment to quality can make to a company's competitiveness. The demands that are being placed on public services in the face of limited resources suggest that this challenge is at least as great to the Federal government. The *Federal Total Quality Management Handbook* is a growing series of booklets intended to be a resource for those who are ready to make a serious commitment to quality improvement.

The development of this *Handbook*, including this booklet on *Training and Education*, represents a team effort by many Federal agencies. They contributed staff, resources and thoughtful comments. We are encouraged by the response to the Handbook series and believe it will be a useful tool in furthering the government-wide quality effort.

Let us hear from you at the Federal Quality Institute with your comments and suggestions for improvement.



Anthony J. Principi
Deputy Secretary of Veterans Affairs

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The Federal Quality Institute is located at the National Building Museum, Washington, D.C.

Photo by Jack Boucher

The Federal Quality Institute receives policy direction from a board of directors made up of Federal officials who know about and support quality management principles in the Federal government.

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Preface

Total Quality Management is a strategic, integrated management system for achieving customer satisfaction. It involves all managers and employees and uses quantitative methods to improve continuously an organization's processes. It is not an efficiency ("cost-cutting") program, a morale-boosting scheme or a project that can be delegated to operational managers or staff specialists. Paying lip service to quality improvement, by merely using quality slogans to exhort workers, is equally disastrous. As Dr. W. Edwards Deming has said, "Quality cannot be shouted."

At the foundation of Total Quality Management (TQM) are three principles: Focus on achieving customer satisfactions; seek continuous improvement; and full involvement of the entire workforce. Achieving these principles requires the establishment of a cultural shift within an organization aimed at making the new culture more participative.

Approximately 60% of all Federal employees are in bargaining units and are represented by Federal unions. In most cases the planning, development and implementation of Total Quality Management programs will involve employees who are represented by unions. It is highly desirable to develop a cooperative management-union relationship. TQM offers an excellent opportunity to achieve a more constructive labor relations climate and avoid costly disputes between management and labor.

Labor-management cooperation in the TQM context involves discussions and informal understandings or agreements between management and union representatives concerning matters of mutual interest. This approach enables management and unions to reach mutual agreement on matters which are beyond the scope of collective bargaining and legal contract language. The aim is to provide a sound basis for employee involvement.

The keys to successful labor-management cooperation on TQM are mutual trust and early involvement of union representatives. Union leaders should attend, or receive independently, the same briefings received by agency executives responsible for planning TQM. This involvement and trust should continue throughout the implementation and operations of TQM to help ensure meaningful and constructive employee involvement. In the event unions choose not to participate fully in TQM, which is their prerogative, it is still extremely important that agencies keep them informed of TQM plans and activities, properly communicate with represented employees and continually seek a constructive relationship with employee unions. The traditional bargaining relationship between union and management would continue in areas legally reserved for the bargaining arena.

Dedication

This *Handbook* is dedicated to the memory of
John J. Franke, Jr.
Director, Federal Quality Institute

John's life was a quality journey.
He proved you can excel and still have fun.

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Introduction

Total Quality Management (TQM) is a comprehensive, customer-focused system that many organizations are adopting to improve the quality of their products and services. It is a way of managing at all levels, top management to front-line, to achieve customer satisfaction by involving all employees in continuously improving the work processes of the organization.

Many believe that the world wide effort to improve the quality of goods and services through application of TQM principles represents a fundamental change in management style and philosophy that will dramatically alter the way successful enterprises (private and public) are managed for the foreseeable future. The impact of this movement on the way many U.S. companies are managed is profound: Results in market share, profitability, productivity, and worker involvement have been spectacular. Recently, this movement to pursue Total Quality Management as an overriding management approach has been adopted by segments of the Federal Government with equally good results, and an effort has been launched to encourage its adoption throughout the Government.

This is one of a series of booklets that together will form the *Federal Quality Management Handbook*. The series is intended to provide practical "how-to" information to Federal employees at all levels (top career and political policy officials, mid-level managers, and front-line supervisors and employees) on the implementation of TQM in the Federal workplace. Each booklet focuses on a particular dimension of Total Quality Management. The first two booklets – *Introduction to TQM in the Federal Government*, and *How to Get Started Implementing Total Quality Management*, are intended to help Federal officials begin the TQM journey.

This booklet picks up where *How to Get Started* leaves off. It is intended primarily for program officials who have begun to think seriously about, or have already begun, a TQM effort in their organization and want guidance on the training effort in support of TQM. It discusses how best to plan and manage the delivery of training to support an organization's TQM effort.

The discussion is based upon the cumulative experience gained by the Federal Quality Institute (FQI) in assisting Government agencies to implement TQM and through discussions and interviews with many managers who are implementing TQM. In preparing for this booklet, FQI staff visited or interviewed over 200 managers knowledgeable about TQM in Government and private industry, including:

- directors of training in seven major Federal agencies;
- top executives and quality coordinators of successful Federal TQM efforts, including seven Quality Improvement Prototype Award winners and two winners of the Presidential Award for Quality;

- organizations in the early stages of TQM implementation, including client agencies of the FQI, and agencies beginning TQM who are not FQI customers;
- TQM training officials in the Office of Personnel Management and General Services Administration, and their Federal agency customers;
- selected private consultants who provide training assistance to agencies under the Federal Supply Schedule, and selected Federal customers of FSS suppliers; and
- successful private industry TQM practitioners, including five winners of the Malcolm Baldrige Award for Quality.

Background – Total Quality Management Creates A Cultural Transformation

The essence of TQM is involving and empowering the entire work force to improve the quality of goods and services continuously in order to satisfy, and even delight, the customer.

In a TQM context, the standard for determining quality is meeting customer requirements and expectations the first time and every time. There are many potential requirements and expectations that customers have, depending upon the particular product or service and needs of the customer. Rather than the organization attempting to determine what quality is, a TQM approach systematically inquires of its customers what they want and strives to meet, and even exceed, those requirements.

The essence of TQM is involving and empowering the entire work force to improve the quality of goods and services continuously in order to satisfy, and even delight, the customer. The Federal Quality Institute has identified seven operating practices that make these principles a reality. They are:

- Demonstrating personal leadership and support of TQM by top management;
- Strategically planning the short- and long-term implementation of TQM throughout the organization;
- Assuring that everyone focuses on customers' needs and expectations;
- Developing clearly defined measures for tracking progress and identifying improvement opportunities;
- Providing adequate resources for training and recognition to enable workers to carry the mission forward and reinforce positive behavior;
- Empowering workers to make decisions, and fostering teamwork; and
- Developing systems to assure that quality is built in at the beginning and throughout operations.

These principles and operating practices are described more fully in *Introduction to Total Quality Management in the Federal Government*, one of the booklets in this Handbook series. They constitute an operational definition of Total Quality Management.

TQM is not simply a set of specific management techniques and tools. It is a way of managing that is embedded in the culture and environment of the organization. The culture of an organization reflects the prevailing norms, values, beliefs, and assumptions that determine how workers relate to one another and to their jobs. If the culture emphasizes quantity, power, inspection, blame, win-lose competition, and conformity, the culture itself is an obstacle to quality. The culture sought through TQM emphasizes a

Experience shows that it takes years to create a new culture that places a premium on excellence; to build structures that will sustain and manage change; and to provide training to support the effort.

commitment to excellence, mutual respect among employees and managers, encouragement of risk-taking and change, a commitment to customers, and continuous improvement. Experience shows that it takes years to create a new culture that places a premium on excellence; to build structures that will sustain and manage change; and to provide training to support the effort. When this transformation has occurred, the results are frequently startling. Everyone in the organization is continuously and systematically working to improve the quality of goods and services and the processes for delivering them, in order to maximize customer satisfaction. Organizations become more streamlined, a larger percentage of workers are involved in line operations, and there is a greater spirit of cooperation in pursuit of common goals. Perhaps most significantly, a spirit of energy and excitement, even fun, permeates the organization.

Organizations that have achieved these changes have done so only where the top leadership was actively involved and committed to the effort and systematically managed the adoption of the seven operating practices summarized above. Most organizations begin by introducing their top leadership to the basic principles and philosophy of TQM. The leaders frequently enroll in seminars, conferences and lectures, read books, view videos, and visit other organizations that are implementing TQM.

When the top leaders are familiar with the basics of TQM and decide to embark on the TQM journey, considerable early planning is usually required. Usually the top management team systematically examines the values and traditions of the organization, develops with input from employees a vision of where it wants to be in the next three to five years, and surveys the organization to determine where it is in relation to the vision. The leaders make a formal commitment to the adoption of TQM and communicate the commitment to the entire organization. These and other key steps in the early planning stages of a TQM effort are summarized in the booklet *How to Get Started Implementing Total Quality Management*, another of the booklets in this series.

Many organizations beginning a total quality improvement effort seek external assistance to help determine how best to proceed, introduce the leadership to basic TQM concepts and skills, and plan the quality deployment effort. This assistance often takes the form of both consultation and training. Consultation consists of continuing advice, dialogue, and informal guidance to the organization's leadership to help map out the quality transformation process. Training is the process of transmitting TQM knowledge and skills in a classroom setting or in a structured setting on the job. In practice, the distinction between the two is often blurred. Both are ways to introduce new knowledge in the organization, and the consultant often is a trainer as

well. The close relationship between consultation and training in implementing TQM should be borne in mind in reviewing the guidance outlined in this booklet.

One of the most important elements of a TQM effort is training. If everyone is to participate effectively in the quality effort, then everyone must have the necessary knowledge and skills.

One of the most important elements of a TQM effort is training. If everyone is to participate effectively in the quality effort, then everyone must have the necessary knowledge and skills. The experience of successful TQM practitioners suggests that there is a body of general training needs that most organizations face when they are designing their TQM effort. And most successful TQM practitioners follow some basic planning, management and operating principles to assure that the TQM training is integrated into and supports the overall TQM implementation effort. Those are the subjects of this booklet.

This booklet does not attempt to set out a methodology for designing specific training programs for each organization. Each organization should develop its own TQM training program, taking into account the general principles and training needs outlined herein. As with any training effort, each organization should follow standard training practices in designing and conducting its TQM training program, which consist of: (1) Needs assessment and task analysis, (2) Design of instruction, (3) Development of training course and materials, (4) Implementation and conduct of training, and (5) Evaluation.

Planning for TQM

The FQI recommends that early in the TQM implementation effort the organization establish a Quality Council represented by top management to oversee the quality improvement effort. One of the early tasks the Council should undertake is development of an implementation plan. Some of the key strategic decisions that should be addressed in the plan are:

- timing and phasing of TQM including where to focus the initial TQM efforts organizationally during the start-up and subsequent phases.
- what kind of infrastructure will be established to guide the overall TQM effort, such as the makeup and responsibility of a Quality Council or other oversight group to guide the overall effort, and whether to establish other quality boards to charter and guide quality improvement efforts;
- identification of resources (dollars and personnel) that will be set aside to support the TQM effort, such as assignment of a quality coordinator and other support staff;
- a plan for how TQM implementation will be integrated into the organization's overall strategic and operating plan; and

One of the most important elements of an organization's TQM implementation plan is the training component. The section entitled *Planning the Overall Training Effort* on page 9 summarizes important issues that should be addressed in the training plan.

Evolving Training Needs

Overall Needs Assessment

One of the early tasks the Council should undertake is development of a strategic quality plan.

Most organizations that have embarked upon the quality journey confront a similar set of education and training needs. As a consequence, a fairly consistent set of subject areas have evolved in which many organizations provide training as part of their TQM implementation effort. The section entitled *Content and Focus of TQM Training* on page 20 summarizes training subject areas and courses that many successful TQM organizations provide to meet those needs. The specific focus and content of the training will vary for each organization, depending on its own background, understanding and TQM implementation plans. Therefore, as with any training effort, each organization should conduct an assessment of its training needs in relation to existing skills and expertise of the work force. In planning for TQM training, explicit attention should be given to both the current and expected future training requirements as the TQM effort evolves.

Training Needs in Relation to Implementation Phases

The TQM training effort becomes integral to the full range of management and related training provided to everyone.

The training needs of an organization vary as the organization progresses on the TQM journey. In the early stages of TQM implementation, training needs usually consist of TQM orientation and awareness, team leader and team member effectiveness, group dynamics, and problem solving techniques. As the quality effort matures, the organization increasingly integrates team activities and quality initiatives with its organization-wide planning, budget and control processes to form a comprehensive planning and deployment system. By integrating and aligning these processes, the organization seeks to achieve breakthrough on high priority issues that impact its ability to meet and anticipate customer needs. As this occurs, the focus of the training effort changes to support the new needs. Many organizations find need for training in advanced statistical tools, design and conduct of customer surveys, focus groups, and techniques for analyzing and adopting systems used in other organizations (benchmarking). Organizations that have successfully made the cultural transformation sought by a quality effort eventually adapt their entire training effort to incorporate basic TQM concepts. The TQM training effort becomes integral to the full range of management and related training provided to everyone.

Table 1 below summarizes the kinds of training needs that many organizations have at various stages of TQM implementation.

TABLE 1
Summary of TQM Education and Training Needs in Relation to Phases of TQM Implementation

PHASES OF TQM IMPLEMENTATION	TYPICAL EDUCATION AND TRAINING NEEDS
Phase I – *Deciding Whether to Implement TQM.* Top executives are actively considering whether to embark on TQM effort.	Awareness training for top management team. Reading and video viewing by top management team. Attendance at conferences and external training seminars.
Phase 2 – *Getting Started.* Top leadership has made a formal decision to embark upon a TQM effort. This phase usually lasts about a year, and frequently consists of: establishing a quality council, developing a vision, assessing the organization's readiness and culture, reviewing the TQM training needs, developing an initial TQM implementation plan, and beginning some initial TQM education and training.	Quality leadership training for top managers. Orientation or awareness for mid-level managers, supervisors and non-management employees. Site visits to exemplary TQM organizations. In-depth training for the quality coordinator. Begin training of managers and supervisors to conduct orientation and awareness training for work force. Begin training internal trainers, facilitators and team leaders.
Phase 3 – *Implementation.* Some specific results are being realized by the adoption of TQM-related processes, such as formal establishment of quality teams, identification of internal and external customers, analysis of systems and processes in order to streamline operations, and adoption of significant new policies designed to further quality management principles.	Complete orientation of workforce. Leadership training for managers, supervisors, and union leaders. Training of team leaders and team members as they are assigned to quality teams. Continue training of internal trainers and facilitators. Limited training in more advanced TQM subjects such as Hoshin Planning, benchmarking, Quality Function Deployment, and statistical process control.
Phase 4 – *Achieving Widespread Results.* The organization is beginning to realize systemic, cross-functional and/or organization-wide achievements resulting from the TQM effort.	Advanced statistical analysis of complex processes. Training in advanced TQM techniques such as Hoshin planning, benchmarking, and Quality Function Deployment. Integration of TQM concepts in all supervisor and leadership training.

Planning the Overall Training Effort

All successful TQM practitioners consulted by the FQI report that systematic and planned deployment of TQM training was critical to their success, and that the deployment of training was tied directly to their TQM plan. The following outlines some of the important characteristics of such plans.

Training Should be an Integral Component of TQM Implementation

All successful TQM organizations contacted by the FQI report that TQM training is an integral component of their total quality effort, and they plan accordingly.

Many traditional organizations treat training as a separate support function that is not a part of everyday mission-related operations. In contrast, all successful TQM organizations contacted by the FQI report that TQM training is an integral component of their total quality effort, and they plan accordingly. The specific implementation needs of the organization – where the initial TQM focus will be, the schedule for phasing TQM throughout the organization, the existing mix of TQM skills and knowledge – determine the focus, form, timing, and targets of TQM training. As suggested above, organizations beginning TQM should first develop a comprehensive strategic plan to guide TQM implementation and make TQM training an integral component of that strategy. They should conduct an inventory of TQM-related skills and knowledge that already exists, and project needed training as a consequence of the TQM implementation strategy.

Examples: The *Department of the Navy* established the Navy Executive Steering Group to guide the Department-wide TQM implementation effort. The Group consists of the top management team of the Department of the Navy and is chaired by the Under Secretary. The Group established a sub-group to guide the Navy Department's TQM training effort. Under the Group's leadership, the Navy conducted a comprehensive needs analysis to determine the training that would be required to support its organization-wide TQM implementation strategy. Based on this analysis, the Navy developed seven core TQM courses and an operating plan to provide the courses for the Navy's 1.5 million personnel. The Department will train 60 master trainers who will train an estimated 3,500 trainers throughout the Department. This overall training effort is being carried out as an integral part of the Navy's comprehensive Total Quality Leadership effort.

At the *Sacramento Air Logistics Center*, the Quality Council guides the implementation of TQM and sets policy for TQM training. The Human Resource Office coordinates and schedules TQM training. The schedule, however, is based on the policy and TQM implementation sequence established by the Quality Council. A condition for establishment of a team is the availability of team member training, which is provided by designated trainers in the organization.

Priority and Funding for TQM Training

Successful TQM organizations invariably report that they assign a high priority to TQM training.

TQM practitioners generally agree that training is indispensable to any successful TQM effort. TQM generates fundamental changes in the way organizations are managed, including the respective roles of managers and non-supervisory employees. Because training is the primary way organizations introduce all employees to the basic concepts and tools of TQM, successful TQM organizations invariably report that they assign a high priority to TQM training. They adopt policies to assure that employees receive necessary training to participate in TQM activities and to assure that they are not penalized for time off the job. Unlike more traditional organizations, TQM training is not routinely canceled to accommodate other requirements. As the Training Director at American Express commented, "training is the last activity to be cut, not the first."

The pace and scope of TQM implementation will be constrained by the lack of funds for training if priorities are not clearly established. Therefore, it is essential that an organization beginning to implement TQM plan for the training costs up front. The organization should begin with its existing training budget and, to the extent feasible, re-deploy funds to support TQM. Also, previously budgeted leadership and management training, organizational development, and other training areas which are directly relevant to TQM can be tailored to support the TQM effort. Finally, the organization should estimate the total TQM training needs in relation to the implementation strategy and reallocate accordingly.

Every successful TQM organization contacted said that budget limitations did not seriously impede their TQM effort. TQM training was made a program priority, not simply another support activity.

Examples: In the course of interviewing advanced TQM organizations in preparing for this booklet, the FQI asked if budget limitations had been a significant barrier to the adoption of TQM. Surprisingly, every organization contacted said that budget limitations did not seriously impede their TQM effort because they were able to reallocate priorities to meet their needs. For those organizations, TQM training was made a program priority, not simply another support activity.

A typical response came from the quality coordinator of the *Aeronautical Systems Division of the Air Force Logistics Command*, who stated, "As soon as our Director saw the critical importance that training would have to our quality effort, he made the necessary reallocation of priorities to support the effort." Similarly, the Director of the Western Region of the Wage and Hour Division, Department of Labor, stated simply, "We found the resources to get the job done."

The *Naval Supply Center at San Diego* illustrates an approach toward integrating the planning and budgeting for TQM training. Employee training is an integral part of the Center's Strategic Plan and the TQM Implementation

"As soon as our Director saw the critical importance that training would have to our quality effort, he made the necessary reallocation of priorities to support the effort."

Plan. The Annual Training Plan prioritizes training requests and projects costs necessary to accomplish them in relation to program needs. Training plans, and associated costs, are reviewed and approved through the Center's established program review and budgeting process.

A number of organizations have used creative approaches to overcome limited budget resources. *Example:* In FY 1991 the *Department of the Interior (DOI)* received a small appropriation to support TQM training. The Department enrolled several staff members in "train the trainer" courses provided by the IRS at little cost. Once the in-house personnel were trained, the Department established its own training programs for in-house staff. It used the appropriated funds to help pay for costs incidental to the training, such as travel and related expenses of DOI staff who participated in the DOI-conducted training from out of town. This approach enabled DOI to secure much greater training than would have been possible by using the initial funds to pay for external sources of TQM training directly.

Increased Emphasis and Priority on Job Skill Training

"To fully understand TQM but possess inadequate job skills would be ineffective. To have inadequate understanding of TQM, yet be highly skilled is potentially equally ineffective."

Organizations committed to delivering high quality services to their customers know that workers must be equipped with the skills and knowledge to perform the job. As organizations establish their quality objectives, they routinely examine the job skill requirements of the work force to meet new quality standards and adjust their skills training accordingly.

Examples: The *Air Force Logistics Command*, winner of the 1991 Presidential Award for Quality, in describing its TQM effort states, "To fully understand TQM but possess inadequate job skills would be ineffective. To have inadequate understanding of TQM, yet be highly skilled is potentially equally ineffective." The AFLC seeks to incorporate TQM processes into every assigned responsibility, with continuous process improvement for customer satisfaction the primary goal.

The *Naval Supply Center in San Diego, California*, gears the education and training program to each employee's skill needs, which are tied to a competency-based certification. The Center identifies skills, competencies, and tasks required for an occupation and designs a structured training program to ensure that the employee can satisfactorily perform the job. Since adoption of TQM, the Center has modified the competency-based standards to reflect the quality standards established in the organization's strategic quality plan.

The priority accorded training is also reflected in size of training budgets. Some private companies committed to quality, such as Malcolm Baldrige Award winners, allocate 10 percent or more of their payroll to training, compared to about .5 percent in most Federal agencies.

As Federal agencies begin to pursue TQM, they too usually devote proportionally greater resources to training.

Examples: The Administrator of the *Animal and Plant Health Inspection Service (APHIS), Department of Agriculture*, stated, "We were very disappointed in the low 1.5 percent of our budget that was going into our training, and then discovered that the Department of Agriculture only commits .5 percent of its budget to training. The private sector benchmark is 3 to 5 percent and that's where we're headed."

A good example of the priority accorded to training is provided by the *Ogden Internal Revenue Service Center (OSC)*, the winner of the 1992 Presidential Award for Quality. Since 1986, when OSC began its quality effort, its training has been extensive. In fiscal year 1990, the Center spent $5.6 million on skills training and quality education. This was 5.9 percent of the total payroll.

Assignment of Employees to Training

Once training resources have been identified, the organization should establish priorities and a plan for the deployment of TQM training throughout. The following are some considerations in assignment and scheduling of training.

Training on a "Just-in-Time" Basis for Quality Tools and Techniques

Successful TQM organizations usually provide TQM training beyond the initial awareness as the specific skills and knowledge will be used – e.g., on a "just-in-time" basis.

Most organizations have found that the ability of employees to absorb and retain TQM tools and techniques erodes quickly if substantial time lapses between the instruction and application of the new knowledge on the job. They often find it is necessary to re-train employees when they begin to participate in a formal quality effort. In addition, long delay times between training in TQM practices and application on the job often generate cynicism and doubt about the quality effort, a perception that it is just another management "flavor of the month." It then becomes difficult to resume the quality effort later. Therefore, successful TQM organizations usually provide TQM training beyond the initial awareness as the specific skills and knowledge will be used, e.g., on a "just-in-time" basis.

Example: The *Defense Contract Management District Northeast of the Defense Logistics Agency* routinely schedules team member training as employees are assigned to Process Action Teams. Team members first receive five days of team member training covering group dynamics, problem solving tools, and introduction to basic statistical problem solving. Each team is also assigned a TQM team facilitator, who provides more in-depth training to team members as specific tools are required for specific tasks undertaken by the team. The District avoids providing instruction if the skills will not be used in practical application soon.

Scheduling Training

Most successful TQM practitioners routinely assign employees to appropriate training when they are assigned to a formal TQM activity. Assignment to training is not a separate decision, but done as a matter of course. If the appropriate training is not available, assignment to the quality effort is frequently postponed until it becomes available.

Most successful TQM practitioners routinely assign employees to appropriate training when they are assigned to a formal TQM activity.

It may not be possible to develop a detailed, phased schedule for training at the outset because the schedule for TQM implementation has not yet been determined. Therefore, organizations frequently establish a formal policy and procedures for identifying specific training needs of units and arranging for the appropriate courses to meet the training needs as they arise.

Example: The Department of Veterans Affairs, Regional Office and Insurance Center in Philadelphia (VAROIC), a 1992 Quality Improvement Prototype Award winner, has adopted such a procedure. Currently, as teams are nominated to the Quality Council, the Quality Coordinator oversees and schedules both the formation of teams and the provision of training to team members, so that the two are scheduled simultaneously. This formal procedure was established in order to assure that team member training would coincide closely with the assignment of workers to Quality Improvement Teams.

Voluntary vs. Mandatory Participation

In the start-up phase participation in TQM is usually voluntary in order to maximize buy-in by participants.

As the TQM effort matures and spreads throughout the organization, TQM becomes an integral component of the organization's culture, and everyone participates routinely. In the start-up phase, however, participation in TQM is usually voluntary in order to maximize buy-in by participants. It follows that participation in TQM training also should be voluntary in the early stages of a TQM effort, although appropriate training is required for those who do elect to participate in a formal TQM activity. The major exceptions to this voluntary rule are orientation and awareness training, which frequently are provided to all employees, and selected training for the organization's top management. If the organization has decided to implement TQM, all of the top management team may be required to participate in key training, such as TQM awareness, leadership and organizational change, in order that they can effectively lead the overall effort.

Phasing Training Throughout the Organization

Timing of training is often critical to the success of TQM. The focus and concentration of training within the organization will vary as the organization progresses in its TQM journey. The following are issues which organizations beginning a TQM effort should consider in phasing training throughout the organization.

Top Management Orientation

The first phase of TQM training is provided to the top leadership in order that they can direct the overall TQM effort.

The first phase of TQM training is provided to the top leadership in order that they can direct the overall TQM effort, and usually consists of the following:

- *Awareness Training.* Awareness training for the top management team is often the first formal action an organization takes to begin a TQM effort. An example of Awareness training is FQI's one-day session for the top management team. The session provides a general understanding of the basic concepts, principles and approaches of TQM, such as a quality vision and values, definition of quality, customer focus, and introduction to some of the basic statistical and problem solving tools. Awareness training for the top management team is designed to provide participants with sufficient understanding of TQM to determine whether or not to proceed and to take some beginning steps.

- *Participation in a Sampling of Courses and Conferences.* The basic philosophy and underlying principles of TQM have been fairly well established in both the private and public sectors. They are described in detail in the scoring guidelines of the Presidential Award for Quality and summarized in the booklet *Introduction to Total Quality Management in the Federal Government.* However, leading TQM practitioners differ in the specific approaches and emphasis that they advocate. For instance, some practitioners recommend a highly structured approach, starting with orientation and training for the top management team before implementing TQM activities at lower organizational levels. Others take a more flexible approach, tailoring the effort to the particular structure and culture of the organization.

  In order to gain an appreciation for the variety of possible approaches to TQM implementation, the top management team often participates in several introductory courses and seminars provided by leading theorists such as Deming, Juran and Crosby. Also, many private corporations, including several winners of the Malcolm Baldrige Award for Quality, offer TQM orientation courses to Government officials. And recently, some Federal agencies have developed excellent TQM Awareness courses that may be available to other agencies. These include the Air Force Logistics Command, various components of the Navy, and the IRS.

- *Site Visits.* One of the most effective ways to gain an understanding of TQM is to observe personally organizations that have already begun to implement quality management. Several factors should be considered in timing and selection of sites. One approach is to make a site visit shortly after an initial awareness session so that the general principles and ideas gained there can be translated into reality. An alternative approach is to wait until top management has begun to wrestle with some of the initial implementation issues, such as establishing a quality council, developing a vision statement, and establishing some early teams. After management has begun to deal with some operational issues, a site visit can introduce ways to handle issues that emerge.

- *Reading books and articles, viewing videos.* Independent reading and video viewing are indispensable adjuncts to any education and training effort, particularly in TQM. A list of suggested readings on TQM training is included in the Bibliography. The Federal Quality Institute Information Network has available an extensive list of references on all aspects of TQM. *Example:* At the *San Diego Naval Supply Center (NSC),* all new military officers reporting for duty are required to complete designated reading and video viewing assignments as part of their initial orientation to NSC and their new jobs. This requirement is prior to their receiving over 80 hours of formal classroom training in total quality.

General Organization Awareness

Initially, IRS proceeded to train most of the work force in basic TQM concepts through orientation and awareness. The IRS training strategy now is to train employees as they become directly involved in the TQM effort.

Many organizations provide either orientation (two to four hours) or awareness (one to two days) for the entire work force long before any actual application of TQM on the job. Some of these have found that the training created unfulfilled expectations and set the overall quality effort back. Others say that if the organization is moving aggressively, letting everyone know something about TQM is a good idea even if many of those trained do not participate directly in TQM initiatives for awhile.

Examples: The *Internal Revenue Service* began a comprehensive TQM effort in the mid-1980s. Initially, IRS proceeded to train most of the 120,000 work force in basic TQM concepts through orientation and awareness. The training proceeded much more rapidly than the actual deployment of TQM practices within the IRS. As a consequence, IRS management now believe that they proceeded too rapidly in training everyone. The IRS training strategy now is to train employees as they become directly involved in the TQM effort.

The Richland Field Office of the Department of Energy provided awareness training for the entire work force early in its TQM implementation effort.

The *Richland Field Office of the Department of Energy* provided awareness training for the entire work force of 350 early in its TQM implementation effort. The Quality Coordinator reports that this training has been very effective in letting everyone know about the quality effort, helped generate enthusiasm and support, and provided everyone with a common vocabulary and understanding about quality.

The *Defense Contract Management District Northeast*, takes a middle ground. The District provides a four-hour TQM orientation for all employees and a more in-depth two-day awareness training for all supervisors and managers. All other training (statistical and problem solving tools, customer focus, statistical process control) is provided on a "just-in-time" basis.

Initial Focus of In-Depth TQM Training

One of the earliest operating decisions an organization must make is where to target in-depth TQM training in the initial implementation phase.

Targeting Training to Different Groups of Employees

Many TQM practitioners believe that top managers should be familiar with specific TQM techniques such as group problem solving and the basic statistical tools if they are to lead the TQM process.

The following paragraphs discuss some strategic decisions that an organization should make on initial targeting of in-depth training by groups of employees.

Top Management

After introducing the top management team to basic awareness, many organizations also concentrate their initial in-depth TQM training on top managers. Managers may see the TQM effort as isolated tasks or another program which can be delegated to lower level managers or the work force, rather than a process which requires their active leadership and support. Also, many TQM practitioners believe that top managers should be familiar with specific TQM techniques such as group problem solving and the basic statistical tools if they are to *lead* the TQM process. If top managers are not familiar with the practices and approaches toward team solutions before lower level units use them, they are less likely to understand and accept the recommendations of lower level teams. Training at the top levels of the organization is also necessary if the TQM deployment strategy is to focus on cross-functional issues rather than individual issues, since top managers normally control cross-functional decisions.

Non-Supervisory Employees

If the organization decides to focus its early quality efforts on specific operating issues at the line level, the training effort should be focused accordingly. The primary argument for focusing the early TQM efforts at the operating level is to achieve quick successes that can be used to demonstrate the advantages of TQM throughout the organization. In such a strategy, the focus of early in-depth training should be on team building, group problem-solving tools, and approaches for non-supervisory employees assigned to quality teams.

Mid-level Managers

Many organizations have found that the greatest barrier to TQM implementation is resistance of mid-level managers and front-line supervisors who feel bypassed and threatened by the effort. This resistance sometimes has been exacerbated by the initial implementation approach, which was to train non-supervisory employees in TQM tools and techniques without involving managers. To overcome this resistance, many TQM practitioners recommend that managers and supervisors all receive TQM training first and that they be involved in the first teams. The managers so trained apply their team-based skills to cross-functional issues that span organizational responsibilities. Such an approach frequently has the effect of making managers champions of the quality effort, and they sometimes become the primary source of TQM training in the organization.

To overcome resistance of mid-level managers, many TQM practitioners recommend that managers and supervisors all receive TQM training first and that they be involved in the first teams.

Example: The training approach taken by the *Office of Public Services and Administration, Patent and Trademark Office (PTO) of the Department of Commerce*, illustrates some of these approaches. The PTO (a 1992 QIP Award winner) started its TQM effort in 1989. It began training its top management team first in concepts and principles of TQM and fundamentals of leadership. Its next focus was to train mid-level managers and first-line supervisors. The training, primarily in team skills and techniques, was provided for one day a week over 26 weeks. After all managers and supervisors were trained, PTO began training line workers on a just-in-time basis, e.g., instruction in statistical and problem solving tools as they would be used in specific applications. This approach appears to have worked well at the PTO.

Organizational Focus of TQM Training

Where to focus TQM organizationally will significantly influence the focus and direction of the early training. Major options include: (a) the TQM effort is phased in evenly throughout the organization, in which case all major units must become familiar with the TQM concepts, tools, and techniques more or less simultaneously; (b) specific units within the organization will be targeted first, in which case in-depth training for quality teams will be concentrated in those organizations; and (c) focus the effort on specific operating issues or problems that span organizations, but that require immediate attention or give promise of quick payoff.

Examples: Two regional offices of the Department of Veterans Affairs provide examples of how the deployment of TQM can be tailored to best serve differing environments and needs. The *Philadelphia Regional Office and Insurance Center* adopted a "cascading" strategy similar to that of the Patent and Trademark Office summarized above. It began its TQM effort by training its top management team in concepts and specific techniques and tools of TQM, and involving them in cross-functional quality teams. Its next focus was on mid-level managers, many of whom became the primary champions and trainers of the organization-wide TQM effort. Only after managers and supervisors were involved in TQM were line workers involved directly in the TQM effort. This approach involves mid-level managers and front-line supervisors early in the TQM effort and helps solidify support for the subsequent gradual deployment of training and team formation throughout the organization.

The *Department of Veterans Affairs New York Regional Office (VARO New York)* adapted the Philadelphia approach to meet its needs. In addition to "cascading" the TQM effort through each layer of the organization and deploying cross-functional teams, VARO New York has simultaneously deployed training and functional team formation vertically down to the employee level in one operating division where there was strong, active, and early management support. The objective was to obtain some early successes in one division, which could be used to gain support and commitment throughout the rest of the organization.

Content and Focus of TQM Training

As suggested above, many organizations implementing TQM have found a need for a common set of courses and instructional modules to support their TQM effort, many of which are mentioned above. Some of the more common subject areas and instructional courses adopted by TQM organizations are summarized in this section.

Subjects of TQM Training

The following summarizes major subject areas in which TQM organizations usually provide training as part of their TQM effort.

Introduction to TQM in the Organization

Each organization needs to explain what TQM means to that organization. The agency introduces employees to the fundamental principles of customer satisfaction, employee involvement and continuous improvement, and how the organization intends to pursue those principles. The introduction includes the role of leadership, measurement and analysis, employee empowerment, rewards and recognition, teamwork, and customer focus. The training seeks to impart an understanding of work as a process, the impact of variation on quality, and many of the tools and techniques available for "managing by fact." As part of the introduction to TQM, the organization will frequently begin developing and explaining the procedures and infrastructures that will be used to implement TQM, the implementation timetable, and the roles of managers, supervisors, and non-management employees.

Leadership and Managing Organization Change

Many organizations find that their managers' past training and experience is in relatively narrow technical areas. They have little awareness of principles of leadership and change that are fundamental to quality management. Organizations therefore often provide training that introduces participants to quality management concepts such as leading as well as managing, how to build and sustain trust and mutual respect, coaching and mentoring, encouraging risk-taking, openness, delegation and empowerment, listening skills, systems thinking, and how to promote organization change while also understanding and handling resistance to change.

Planning and Problem Solving Tools and Techniques

Organizations implementing TQM rely on a number of tools and techniques that have proven very helpful in assisting groups of employees to systematically improve their operations. They help assure that problems are being attacked in an analytical way with reliance on data rather than feelings and opinions. The following summarizes some of the key tools and techniques for which TQM organizations often provide training.

Group Problem Solving Techniques

Experience has shown that team problem solving can be a highly effective way to improve quality. The effectiveness of teams is enhanced considerably by using certain techniques to assist groups to identify and solve problems, such as brainstorming, nominal group technique, and multi-voting. The techniques provide a structured way to ensure that everyone has equal voice in identifying problems and solutions, prioritizing suggestions, and reaching consensus on recommendations. Problem solving using a structured methodology following the Shewhart Plan-Do-Check-Act cycle is also an important element of training in this area. Other useful techniques include flow-charting, stratification of data, force-field analysis (identification of barriers and aids to improvement), and matrices.

Statistical and Graphical Tools

A major practice of TQM – measurement and analysis – emphasizes use of data and statistical analysis to identify root causes of problems, identify solutions, and measure progress in meeting customer requirements. Most TQM organizations provide employees at all levels training in several basic tools that allow workers to analyze and display the data they have collected during their problem solving sessions. Tools commonly used are: Check Sheet, Pareto Analysis, Cause and Effect Diagram, Histogram, Scatter Diagram, Control Chart, and other Graphs such as line, bar and pie charts.

Planning Tools and Techniques

Quality organizations frequently rely on tools to aid in group planning as well as problem solving. The tools are designed to systematically tap into the imagination and creativity of all participants in a group and provide a structured way to prioritize, organize and plan for the deployment of the widest possible range of solutions. Among the tools commonly used for these purposes are Seven Management and Planning Tools:

Affinity Diagram, Interrelationship Digraph, Tree Diagram, Prioritization Matrices, Matrix Diagram, Process Decision Program Chart, and Activity Network Diagram. Other tools and techniques used to aid in quality planning are Hoshin Planning (policy management deployment) and Quality Function Deployment.

Group Dynamics

Teamwork is one of the major ways to tap the skills and talents of everyone in pursuit of the quality objectives of an organization. Quality organizations provide workers at all levels with training in group dynamics – how a group takes on a personality of its own, how to work effectively in a group setting, personality differences such as described by the Myers-Briggs Personality Type Indicator, interpersonal relations and communication, respect for differences in perspective and point of view, and reaching decisions through consensus.

Customer Focus

Many organizations provide training to all employees in identifying both external and internal customers and what they need. Such training is designed to enhance employees' understanding of their products and services, who receives them (the customer), what they think is important to the customer, and development of measures to know how well they are doing in meeting those customer needs.

Other TQM-Related Topics

Other specialized subject areas often included in formal TQM training include measurement of cost of quality, how to conduct effective team meetings, listening and communication skills, and advanced statistical techniques.

Training Courses

Organizations implementing TQM may use a variety of ways to educate and train employees in basic concepts and skills such as those summarized above. The following are typical training courses that many TQM organizations provide for their work force.

Orientation

Once management has made a formal commitment to adopt TQM, the organization often introduces the entire work force to basic TQM concepts and approaches in two-to-four-hour lectures.

Awareness

Many organizations provide a one-to-three-day course that introduces employees to the history, philosophy, basic concepts, principles, and tools of TQM such as those summarized above under *Introduction to TQM in the Organization*. Organizations beginning TQM usually provide such a course to their top management team as the first formal TQM activity and often provide such a course to everyone – managers and non-supervisory employees – before they become actively involved in a formal TQM activity, such as setting up teams to improve processes.

Quality Team Training

A hallmark of TQM is use of quality teams (often called Quality Improvement Teams or Process Action Teams). Teams of employees identify systemic operating problems and opportunities for streamlining operations and ways to improve quality of processes or final outputs. They usually are comprised of a cross-section of employees with particular skills and background relevant to the issues to be examined and rely heavily on the expertise of the team members without regard to their position or rank in the organization. Teams frequently are the most visible early expression of employee involvement in a TQM effort. They might be established temporarily to solve a specific problem in one organization, analyze cross-functional issues, or be a standing team of employees. Team members typically receive instruction over three-to-five days in the full range of TQM tools and techniques such as those summarized above, e.g., concepts of leadership, group dynamics and interpersonal skills, group problem solving, and basic statistical and graphical tools.

Team Leader Training

In addition to training in the basic TQM tools provided to team members, team leaders often receive more advanced training in leadership and management techniques such as participative management, mentoring and coaching, group dynamics, effective meeting techniques, and techniques for guiding a team effort.

Facilitator Training

The effectiveness of quality teams is enhanced considerably by a facilitator (sometimes called quality advisor) who helps to keep the team cohesive and focused on the team's objectives. Facilitator training, often a one- or two-week course, equips participants to be thoroughly familiar with TQM concepts and techniques, enables them to address the technical issues and languages of teams, and handle the interpersonal dynamics, including values and personalities. The facilitator works closely with the team leader in helping to guide and focus the efforts of the quality team. Often either the facilitators or team leaders are also the primary trainers of team members.

Instructor ("train the trainer") Training

Instructor training courses may be provided for any of the specific areas of training that the organization provides to implement TQM, particularly those summarized above.

Most organizations adapt the above subjects and courses to fit their own needs.

Most organizations adapt the above subjects and courses to fit their own needs. In some cases, organizations combine two or more of the subject areas into one course. For example, statistical training might be provided in a separate statistical course, integrated into the one-week team member instruction, or provided to teams as they tackle specific issues. Some organizations introduce concepts of leadership as a separate course, as well as a part of team training. Some organizations provide all team leaders and team members the same training, rather than a separate course for team leaders.

Also, the focus of each training area may vary depending on the particular training group (top leadership, middle management, line workers, union members). Top leaders usually receive thorough training in leadership, organizational change, team dynamics, and the theory and concepts of TQM. Many also believe that the top management team should be thoroughly trained in statistical tools as well. Team leaders and team members usually receive thorough instruction in group problem solving and statistical tools so that they can apply the skills on the job. Table 2 below summarizes the degree to which various groups of employees typically receive instruction in various training subject areas.

TABLE 2
Depth of Learning for Groups of Employees

SUBJECTS:	Top Managers	Mid-level Managers	Non-supervisors	Union Leaders	Union Rank & File
Introduction	○	○	○	○	○
Leadership/Change	△/○	○	○	○	○
Group Problem Solving -	△/○	○	○	○	○
Analytic Tools	△/○	○	○	○	○
Planning	○	○	△	○	△
Group Dynamics	○	○	○	○	○
COURSES:					
Orientation	❊	❊	○	○	○
Awareness	❊	❊	○/❊	○	○
Team Member	△	○	○	○	○
Team Leader	△/○	○	○/△	○	○
Facilitator	△	△/○	○	○	○
Instructor	△	○	○	○	○

Depth of Learning Code:

△ Introduced to basic concepts

○ In-depth for actual use

❊ Ability to train others

Example: The training program of the *Defense Contract Management District Northeast, Defense Logistics Agency*, is a good example of the variety of TQM training provided to various members of an organization. The District uses the following matrix to help manage and deploy the appropriate training for various groups of employees. Everyone receives four hours of TQM orientation. The District has provided all 657 executives, managers and supervisors a one-day TQM Awareness Orientation and a three-day TQM Seminar for managers and supervisors. These two courses include instruction on the history and philosophy of TQM, the Seven Tools for Management and Planning, communication, effective listening, personality type profile, conflict management, defect prevention, variation, quality products and services, and systematic problem solving. Supervisors and union presidents also participate in two days of instruction in the seven statistical tools and team facilitator training. Higher levels of management participate in the above courses and also participate in outside seminars and training.

In addition to courses specifically related to TQM, the District provides awareness and job-skills training that support TQM initiatives, such as computer courses in ENABLE, DOS, Harvard Graphics, and dBASE III. The District also provides additional training in team building, conflict resolution, and technical analysis of cost programs.

TABLE 3
Defense Contract Management District Northeast, Defense Logistics Agency

WHO RECEIVES THE TRAINING	TYPE OF TRAINING	LENGTH OF TRAINING
All employees	TQM Orientation Group Dynamics	4 hours varies
Supervisors and union presidents	**All previously listed courses** TQM Seminar for Managers and Supervisors Seven Tools for Management and Planning TQM Project Team Facilitator	 3 days 2 days 4 days 3 days
Facilitators	**All previously listed courses** Statistical Process Control Quality Function Deployment	 varies 3 days
Commanders, Directors, Deputies, and Office Chiefs	**All previously listed courses** Deming Seminar TQM Master Plan Training Hoshin Planning Training Conferences	 4 days 3 days 3 days varies
Staff members of Office of TQM Integration	**All previously listed courses** Administrative and Service Institute for Productivity through Quality State of the Art Training	 2 weeks varies

Managing TQM Training

This section discusses key principles and issues that organizations should consider in managing, organizing, and arranging for the delivery of TQM training.

Structure Training According to How Adults Learn

Virtually all TQM training should be structured and geared to how adults learn. Some elements of the adult approach to learning are:

- Training should be experiential in nature where possible. Adults learn by absorbing concepts, ideas, and facts through lecture, but they retain information best when they experience the application in real life situations. Some estimate that adults retain only 20 percent of what they hear but 90 percent of what they do. Hence, training should stress practical application exercises for participants, including role playing and dealing with real life case studies.

- Training should be participative and interactive to the extent possible. In adult instruction, the students themselves are often the teachers, while instructors facilitate the learning process but are not necessarily the sources of all knowledge in the courses.

- Above all, adult instruction should be non-threatening. The purpose is not to achieve a grade or otherwise coerce students to learn. The purpose is to facilitate learning that the student is assumed to actively desire and seek.

Selection of Trainers

Most practitioners agree that ultimately organizations should develop their own internal training expertise.

The knowledge and credibility of the trainers can significantly influence training effectiveness. Selecting and organizing the training staff is therefore crucial. In planning the TQM training effort, the organization should address several key issues:

Build Internal Training Capability

Many organizations beginning a TQM effort use outside training assistance because they do not have the expertise internally. Most practitioners agree that ultimately organizations should develop their own internal training expertise, for the following reasons:

- Training in TQM takes on added meaning when the instruction is directly tied to operations of the organization. It is easier for the organization's own employees to relate TQM to the organization and to operating issues.

- The training activity is a critical driver of the TQM implementation effort. Only the organization's own staff fully appreciates the focus of the implementation effort.

- It is cost-effective to develop internal training capability because TQM training is an on-going activity. The skills and techniques must be continually sharpened; new knowledge is developed; there are degrees of expertise (particularly in statistical application); and new employees enter the work force.

- Training is an excellent way for employees to learn about TQM; the instructor often learns more than the student.

All of the advanced TQM organizations consulted as part of the review for this booklet have developed their own capability to conduct training in the core subject areas

Examples: All of the advanced TQM organizations consulted as part of the review for this booklet have developed their own capability to conduct training in the core subject areas summarized above. With one exception, all of the advanced Federal TQM organizations started with an outside consultant or training organization. Eventually they all arranged to have their own staff trained in the core TQM training curricula, by training trainers, so that they have become, or will shortly become, independent of outside assistance. The one organization that did not rely on outside assistance, the *1926th Communications and Computer Systems Group, AFLC*, had a substantial cadre of in-house trainers and personnel who were already familiar with TQM. They were able to adapt other training materials and approaches to their own situation and use their existing trainers to conduct the training.

Many successful private practitioners also have developed their own training expertise. Several private companies contacted by FQI for this booklet – 3-M, Honeywell, and Federal Express – have established their own "quality colleges" which are the primary sources of quality training for the corporation. Also, Westinghouse, Motorola, IBM, Xerox, General Motors, and Ford have established central TQM training facilities.

Smaller organizations which do not already have a core training staff also frequently develop their own TQM training resources by relying on existing employees as part-time trainers. The *Wage Hour Division, Employment Standards Administration of the Department of Labor*, a 1992 Quality Improvement Prototype Winner, has a staff of 140 persons. The Division relies primarily on 20 part-time facilitators for its TQM training effort, augmented by course offerings available from the National office.

Organizations are less likely to develop their own training capability in more advanced TQM practices such as advanced statistical analysis, customer survey design, and benchmarking. Frequently, organizations seek outside assistance for such training if it is not already available in some other aspect of the organization's operation.

Example: The ***Department of Veterans Affairs Regional Office and Insurance Center in Philadelphia*** uses the Quality Improvement Instructors they have developed as in-house consultants to their on-going quality improvement teams. Their actuarial staff also serve as a resource for developing sound sampling techniques and advanced statistical applications. Similarly, the Census Bureau plans to use existing expertise in statistical methodologies for data collection, processing and evaluation to meet is advanced statistical TQM needs.

Professional Trainers vs. Line Employees

If the organization decides to develop its own training expertise, it must decide whether to use professional trainers or reassign employees from mission-related jobs.

Professional trainers have the advantage of experience in training. Some believe that professional trainers in related fields, such as organization development, statistics, and facilitation, can be brought up to speed relatively quickly in TQM, and thus should be the primary source of TQM trainers.

Most of the advanced TQM practitioners report that they rely primarily on existing employees selected from line jobs, rather than professional trainers

Many organizations find that employees performing mission-related jobs, especially managers and supervisors, are the most effective trainers. Some of the advantages of using existing employees are:

- Employees can relate the TQM instruction to operational issues confronted by the organization in day-to-day operations and otherwise bring credibility to the TQM instruction.
- Frequently the most difficult people to enlist in the support of TQM are mid-level managers who feel their traditional roles and responsibilities are threatened. When people are engaged in training TQM, they tend to become champions of the process and can thus be influential in converting other managers as well.

- Training in TQM can be the most effective way to gain in-depth understanding and appreciation for the process, and thus a good way to enhance ownership by employees at all levels, and influence their peers.

- If employees see their supervisors who are trained in TQM become champions of the process, it can add credibility to the effort throughout the organization.

Reliance upon managers and other employees for training places a premium on selecting prospective trainers – those who have good presentation skills and strong interest in TQM and can be made available for training either on a part-time or a full-time basis.

Many organizations believe that use of line employees as trainers is the best approach if the right people can be found. Some organizations, however, have found it difficult to find sufficient numbers of people with the right balance of training skills. They therefore use a combination of experienced trainers and employees from mission-related jobs.

Most of the advanced TQM practitioners interviewed by the FQI report that they rely primarily on existing employees selected from line jobs, rather than professional trainers, for the reasons cited above. A few, however, take a balanced approach, selecting trainers from a variety of backgrounds, depending on the subject and training audience.

Examples: The *Interior Department's Bureau of Mines* recruited a core of internal facilitators from the ranks of line managers and workers, who also serve as the primary source of training for quality teams. In recruiting the facilitators, the Bureau first developed criteria for selection of facilitators, including respect of peers, enthusiastic support of TQM, and good presentation skills. The Bureau sought applications for the facilitator positions. It received over 200 applications from which it selected 50.

The *Naval Supply Center (NSC), San Diego* has taken a similar approach. It has developed a cadre of 25 trainers from various departments throughout the NSC who teach all quality courses as collateral duties to their mission-related jobs. The trainers, most of whom are supervisors and managers, were selected based on their participation and support of the Center's quality effort and good presentation skills. These trainers operate under the overall guidance of the Center's central Human Development staff of four professional trainers and the Center's Training Manager who coordinates the overall TQM effort. Students of the training say they like the variety of experiences and perspectives that the various cadre trainers bring to the classroom along with enthusiasm for TQM.

Sources of External Training

Few organizations beginning to implement TQM have available in-house all the training expertise required to implement TQM. A decision must be made for both the short and long term where the expertise will come from. Several options or strategies are available.

Federal Supply Schedule and other Private Vendors

The FQI has identified 25 private companies qualified to deliver a broad range of TQM consulting and training assistance and placed them on the Federal Supply Schedule

The FQI has identified 25 private companies qualified to deliver a broad range of TQM consulting and training assistance and placed them on the Federal Supply Schedule (FSS) administered by OPM under delegation from the General Services Administration. Federal agencies may contract for their services under streamlined procurement procedures. This is potentially a major source of training expertise for agencies with sufficient funds. By January 1993, the FQI expects to add many more firms to the current list of FSS vendors. A list of the companies currently on the FSS and a summary of their services can be obtained from the FQI in the booklet *FSS Supplier's Guide*. Agencies may also obtain from the FQI information on agencies which have used FSS suppliers as a source of references on the services provided by individual firms.

In addition to the FSS suppliers, a number of other private companies provide TQM training and consultation services. To hire them an agency must use normal procurement practices.

Other Federal Agencies

A number of Federal agencies have developed their own internal training resources, and occasionally other agencies have limited access to them. This can be a less costly way of obtaining training than that normally provided by private suppliers. Agencies which have developed the largest source of internal training are various components of the Navy, Air Force (particularly the Air Force Logistics Command), and the IRS. Other agencies which have developed training expertise include those within the Departments of Interior, Veterans Affairs, and Commerce, and the Environmental Protection Agency.

Currently there is no composite list of Federal agencies that have training available for other agencies. The FQI is planning to develop such a list along with a mechanism for exchanging information on available resources.

TQM Training by OPM, GSA and USDA Graduate School

All of the regional offices of OPM now provide training courses in TQM subjects at reasonable costs. The offerings include the subjects summarized above, such as general awareness, seven basic statistical tools, group decision making, facilitation, team building, and leadership. The GSA Inter-Agency Training Center provides similar training in areas similar to those provided by OPM regional offices.

The USDA Graduate School and the Executive Seminar Centers of OPM provide TQM training in selected TQM subjects. They can be a good way to introduce individuals to basic concepts and tools of TQM. However, they are not customized to the needs of particular organizations. They are designed for individuals and therefore may be appropriate primarily to supplement an organization's comprehensive TQM training effort.

Rely on Existing Trainers in TQM-Related Areas

Many organizations will find that though they do not have sufficient training expertise in TQM-specific subjects, they do have a cadre of training personnel in related areas that can be readily converted to TQM needs. Such skills include statistical theory and application, organization development, and customer surveying. Such areas of expertise should be considered when the organization is reviewing its training plan and budget.

Managing the Overall Training Effort

A threshold issue which organizations must face early is how best to integrate and manage the various forms of training required. There are two alternative courses to follow:

Rely on a Private Contractor

Many organizations beginning a TQM effort rely heavily at first on an outside contractor to help them develop a comprehensive implementation and training strategy. The contractor frequently assists in the design of the organization's implementation approach, trains the management team, and consults with them as they plan and manage the overall TQM effort. The external contractor also is frequently the primary source of training in the initial stages of TQM implementation.

Selecting an outside contractor at the outset of the TQM effort often presents a dilemma to the organization. It is difficult for an organization to choose the appropriate strategy and contractor before it has become familiar with TQM and the alternative implementation approaches that are available. Many organizations use the process of selecting an outside contractor as part of their own education and orientation.

Organizations should assure that the outside contractor has the expertise and willingness to train in-house trainers and will work toward making the organization self-sufficient.

Because most organizations implementing TQM eventually find it desirable to develop their own training resources, they should assure that the outside contractor has the expertise and willingness to train in-house trainers and will work toward making the organization self-sufficient.

Example: The *Department of the Interior's Bureau of Mines* addressed this issue early in its TQM planning effort. One of the first actions that the new Quality Council took was to establish a quality working group to develop the Bureau's TQM training plan. One of the major tasks of the team was selection of a private contractor. The team developed criteria for selection of an external training organization, which included willingness to adjust to the Bureau's style, ability to deliver training to the Bureau's widely dispersed organization, and willingness and ability to assist the Bureau to develop its own internal training expertise. After developing the criteria, the Bureau reviewed the training material of all the consultants certified on the Federal Supply Schedule and narrowed the list to six primary candidates. The team interviewed each of the six primary candidates and selected Federal customers before selecting a primary contractor. Staff at the Bureau report that the process of selecting the outside contractor contributed considerably to their understanding of the TQM implementation effort.

Agency Management of Training

Under this approach, the agency might arrange for training by outside contractors in specific courses such as facilitation and team building. The agency, however, plans the overall TQM training and manages and integrates the various training courses.

Examples: The *1926th Communications and Computer Systems Group (CCSG) at Wright Patterson Air Force Base* followed this approach. The parent organization, the Air Force Logistics Command at Dayton, Ohio, had developed a central training school to which the Group had access, and the Group had a core of personnel familiar with TQM operations.

The 1926th Communications and Computer Systems Group was able to purchase the necessary training from a variety of sources without relying on a single outside consultant.

Building on the expertise available at AFLC headquarters and the core training staff, the CCSG was able to purchase the necessary training from a variety of sources without relying on a single outside consultant. Another example is the *Department of Veterans Affairs Office of Acquisition and Materiel Management* which established an internal staff by hiring two staff from the Norfolk Navy Shipyard, which has a well-developed TQM implementation effort. The two new staff members have become the primary source of training for the Office.

The principal problem with this approach is that organizations beginning TQM often do not have sufficient knowledge about the implementation process to be able to manage effectively the full range of training and implementation issues that present themselves. The CCSG was able to develop its internal capability on its own because it already had considerable expertise in TQM-related training and access to the AFLC central training facility.

Some organizations address this issue by entering into a start-up agreement with the FQI. The FQI assists the organization to plan its overall TQM strategy and to screen potential outside contractors.

Role of the Quality Coordinator

In most TQM efforts, the Quality Coordinator plays a critical role in integrating the various sources of training and assuring that training is integrated with the overall implementation strategy. Typically, the Quality Coordinator reports to the organization leader and/or the Quality Council. The Coordinator usually is the person who maintains the overall implementation schedule, arranges for agenda and follow up to Quality Council activities, and identifies champions and resources to carry the quality effort throughout the organization.

If an organization decides to use a primary outside consulting and training organization to help guide its TQM effort, the Quality Coordinator usually is the primary point of contact. To be effective, the Coordinator and the outside consultant must develop a close and mutually supportive relationship.

The Federal Quality Institute is now exploring the possibility of developing such a course as part of its services to assist in the Government-wide quality deployment effort.

Because of the critical role of the TQM coordinator, a number of agencies have expressed a desire for a Government-wide quality coordinator training course. The Federal Quality Institute is now exploring the possibility of developing such a course as part of its services to assist in the Government-wide quality deployment effort.

Training Tailored to Each Organization

Virtually every advanced TQM organization has developed a TQM training curriculum that reflects its own culture and TQM implementation strategy.

Virtually every advanced TQM organization has developed a TQM training curriculum that reflects its own culture and TQM implementation strategy. The content of the core training areas summarized above (awareness, facilitator, team member) is usually similar among quality organizations. Each organization, however, adapts the instruction to incorporate examples from its own operation and modifies the length and mode of instruction to correspond to its particular implementation schedule and objectives.

Example: When the ***Internal Revenue Service*** started its TQM effort in the mid-1980s, it contracted with several outside consultants to help guide its effort. One of the consultants developed an overall TQM implementation strategy and formal instruction in key elements of TQM. Over time, the IRS developed the resources and expertise to deliver the training on its own and modified the instruction to correspond to its own operations and culture. It modified the timing and sequence of specific training modules and incorporated examples from its own operations. While the basic thrust and direction of the IRS training is similar to that initially used, it has evolved to the point that it can no longer be considered the same as the original package.

Organizing Training Staff

How best to organize the internal training staff depends on the initial deployment of training. At least two approaches are possible.

Trainers Remain on Existing Jobs

If a decision is made to train existing line personnel to be trainers, a decision must be made how to take the trainers off their existing jobs. One approach is to establish a core group of experienced TQM trainers who become trainers of trainers. The bulk of training for rank and file is by employees who continue on their existing job assignments but perform training on a rotating basis as a collateral assignment.

Example: This approach was taken by the ***Department of Veterans Affairs, Regional Office and Insurance Center in Philadelphia***. It has selected 18 staff members, half of whom are managers, to be certified as trainers in the full scope of team responsibilities. These trainers remain on their regular jobs, and conduct training on a rotating basis and as needed. This approach requires establishing a roster of trainers and a schedule for bringing them off line to conduct the training as assigned.

Central Staff of Trainers

If a decision is made to rely primarily on professional trainers, the organization is more likely to organize them centrally. *Example:* The *Air Force Logistics Command* has established core courses that all Air Logistics Centers (ALCs) helped to develop. Each ALC has its own training center, which is supplemented by the Headquarters training center and the other ALC training centers. The *Sacramento ALC* has established a small core of full-time facilitators who conduct training in specific tools and problem solving techniques. More in-depth training is provided by the HQ central training office or other ALC's.

Evaluating the Training Effort

Every training activity should have a built-in systematic evaluation and feedback system to assure that the training objectives are being achieved and that training continues to reflect emerging needs.

Every training activity should have a built-in systematic evaluation and feedback system to assure that the training objectives are being achieved and that training continues to reflect emerging needs. Training for TQM is no exception. Because TQM training is such an integral part of the overall TQM effort, everyone in the organization has a high stake in assuring that the training meets their needs. Many organizations rely on a variety of forms of training evaluation, such as feedback from training participants at completion of the training, surveys of employees who participated in the past, and monitoring of training courses by training specialists. The evaluation of training should be planned routinely in the design and deployment of the training strategy. It should attempt to address such issues as the cost-effectiveness of the training design; choice of contract and in-house courses; and use of media, manuals, and automated systems.

Example: The ***Ogden Internal Revenue Service Center (OSC)*** uses a wide range of indicators to evaluate its education and training activities. One of the most dependable sources is comments from the students. The Center holds brainstorming meetings with employees to improve training. Employee feedback is used to modify course length, content, and timeliness and has resulted in increased acceptance of the training throughout the Center. Another tool is the Key Indicator Report, which compiles data from student critique sheets that are used to evaluate the instructor, training material, and students. The training office uses this information as immediate feedback to improve courses and aid instructors in their teaching methods. The same information is entered into an automated system to measure overall training effectiveness.

Conclusion

As should be clear from the foregoing discussion, there is no simple recipe to the effective management and deployment of TQM training. Each organization has a unique training need that reflects its existing management culture, existing mix of background and skills in the work force, and quality deployment strategy. The organization should design its TQM effort to meet its own unique needs, particularly in relation to its overall TQM implementation strategy.

While each organization's particular TQM training needs are unique, most quality organizations have found that some key operating principles and practices can significantly improve the effectiveness of the training. Many of those practices are summarized in this booklet. These practices will be useful primarily as a general guide, particularly in the early stages of a TQM effort. Organizations should also consult with other TQM practitioners, particularly those who have made good progress on the quality journey, to help them make their own decisions. The effort is not easy. However, if the quality journey is worthwhile, careful attention to the supporting training strategy and management are indispensable.

Appendices

FQI Services

Those who have pursued a TQM approach to management generally attest to the enormous dividends that accrue in terms of improved services, greater customer satisfaction, and increased productivity. They also attest to the excitement and enthusiasm that the entire work force exhibits when the organization adopts quality management as its way of doing business. Workers at all levels gain a sense of mission and commitment that makes work both challenging and enjoyable.

A TQM effort can be challenging, exciting and rewarding, but the task is not easy.

A TQM effort can be challenging, exciting and rewarding, but the task is not easy. The principles underlying quality management are relatively straight-forward, but, in practice, implementing TQM within an organization is usually a difficult and time-consuming task. Results do not come quickly or easily. Implementation requires heavy up-front investment in time and resources and a long-term commitment by top management.

Here are some of the services that the ***Federal Quality Institute*** offers to help Federal agencies consider and implement quality management.

- *Information Network*. The service, which emphasizes Federal applications and experiences, includes a centralized database of case studies, essay, articles and handbooks. The database is managed by the Department of Commerce's National Technical Information Service, and is accessible through telephone hookups. The FQI also has collections of articles, videotapes and other media that Federal officials may use to assist in learning about TQM implementation.

- *Federal Supply Schedule Suppliers Guide*. The FQI also maintains a list of private-sector contractors who have been competitively certified as qualified to assist Federal agencies to implement TQM. Agencies may use these consultants through a stream-lined procurement process as part of the general supply schedule.

- *Advice and Services*. FQI executives offer hands-on advice and services customized to fit Federal organizations. These executives have been trained by leaders of the quality movement in America and are knowledgeable about implementing TQM in the Federal environment. Depending on where an agency is in implementing TQM, the services are grouped into four broad categories: Awareness Seminars, Readiness Assessment, Start-Up, and Model Partnership Projects.

- *Conferences*. The FQI co-sponsors national and regional conferences on TQM.

- *Federal Quality Awards Program.* The FQI administers the Presidential Award for Quality (comparable to the Malcolm Baldrige Award for Quality in the private sector) and the Quality Improvement Prototype Award. Awardee prepare case studies, presentations and other materials to help other Federal organizations.

- *Research and Publications.* The FQI conducts research and publishes papers, articles, newsletters, booklets and other information to communicate best practices in quality management. The Handbook series is representative of FQI publications.

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